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IM81/0903

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| WARZEL,M | |
| ART UNIT | PAPER NUMBER |
| 1714 | 10 |

DATE MAILED: 09/03/98

This is a communication from the examiner in charge of your application.
COMMISSIONER OF PATENTS AND TRADEMARKS

## OFFICE ACTION SUMMARY

☒ Responsive to communication(s) filed on 6/1/98.

☐ This action is **FINAL.**

☐ Since this application is in condition for allowance except for formal matters, **prosecution as to the merits is closed** in accordance with the practice under *Ex parte Quayle*, 1935 D.C. 11; 453 O.G. 213.

A shortened statutory period for response to this action is set to expire 3 month(s), or thirty days, whichever is longer, from the mailing date of this communication. Failure to respond within the period for response will cause the application to become abandoned. (35 U.S.C. § 133). Extensions of time may be obtained under the provisions of 37 CFR 1.136(a).

**Disposition of Claims**

☒ Claim(s) 10-86 and 99-135 is/are pending in the application.

Of the above, claim(s) _____ is/are withdrawn from consideration.

☐ Claim(s) _____ is/are allowed.

☒ Claim(s) 10-86 and 99-135 is/are rejected.

☐ Claim(s) _____ is/are objected to.

☐ Claims _____ are subject to restriction or election requirement.

**Application Papers**

☐ See the attached Notice of Draftsperson's Patent Drawing Review, PTO-948.

☐ The drawing(s) filed on _____ is/are objected to by the Examiner.

☐ The proposed drawing correction, filed on _____ is ☐ approved ☐ disapproved.

☐ The specification is objected to by the Examiner.

☐ The oath or declaration is objected to by the Examiner.

**Priority under 35 U.S.C. § 119**

☐ Acknowledgement is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d).

☐ All ☐ Some* ☐ None of the CERTIFIED copies of the priority documents have been

☐ received.

☐ received in Application No. (Series Code/Serial Number) _____.

☐ received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

*Certified copies not received: _____.

☐ Acknowledgement is made of a claim for domestic priority under 35 U.S.C. § 119(e).

**Attachment(s)**

☒ Notice of Reference Cited, PTO-892

☐ Information Disclosure Statement(s), PTO-1449, Paper No(s). _____

☐ Interview Summary, PTO-413

☐ Notice of Draftsperson's Patent Drawing Review, PTO-948

☐ Notice of Informal Patent Application, PTO-152

– SEE OFFICE ACTION ON THE FOLLOWING PAGES –



* U.S. GPO: 1998-410-238/40

## ACTION DETAILS

### A. Amendments/Papers Entered and Claims Status

The amendment filed 12/31/97 has been entered as Paper No. 6. Claims 10-86 and 99-135, as amended, remain in the application with claims 1-9 and 87-98 canceled.

The Change of Address filed 6/1/98 has been entered as Paper No. 8.

### B. Response to the Restriction Requirement

Applicant's election without traverse of the invention of Group II, claims 10-86 and 99-135, in Paper No. 6, is acknowledged.

The species election response of Paper No. 9 indicating the election of the species of claim 28, with claims 28-39 readable on the elected species, is acknowledged.

The prior election of species requirement is withdrawn in view of the art cited as basis for rejection of the claims in this Office action, in view of applicant's election of Paper No. 9 and in view of the rejections cited in applicant's copending applications. Accordingly, claims 10-86 and 99-135 remain under consideration for examination on the merits.

### C. Rejections Under 35 U.S.C. § 112

**Claims 10-86 and 99-135 are rejected under 35 U.S.C. § 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.**

The reference to "ultra high molecular weight" (e.g. claims 10, 52, 76, 79, 85, 99, 111, and 123) and "very high molecular weight" (e.g. claims 99 and 111) and "non-ultra high molecular

weight thermoplastic rubber" (e.g. claim 108) renders the claims indefinite since it is unknown if a particular range is intended to be claimed for the molecular weight or is the claimed term is merely descriptive and not limiting. The metes and bounds of the claims cannot be determined in the absence of a clear indication on the record that a particular molecular weight range is associated with such polymers.

The reference to "molecular weight" renders the claimed range indefinite (e.g. claims 23, 44, 56, and 127) since the basis is not specified (e.g. weight, number or other molecular weight or average molecular weight). As such, the metes and bounds of the patent coverage sought cannot be determined.

The reference to "rebound rate" (e.g. claims 10 and 99) renders the claims indefinite in the absence of specified conditions associated with the claimed characteristic. For example, the test conditions (e.g. temperature and load or degree of elongation for a stretched sample) as well as sample geometry would seem to be the minimum conditions necessary to establish or define the claimed subject matter. Although the specification at page 42 refers to the "rebound rate", it remains unclear if applicant intends to claim specific conditions which are to be associated with the claimed characteristic.

The reference to "compatible" (e.g. claims 10, 17, 37, 49, 61 and 123) creates some uncertainty since it is unknown what is meant by this term in the context of the relationship between the materials or components which are claimed as being "compatible". For example, does applicant intend to mean that the claimed components are "compatible" in a thermodynamic sense or in some other way. Clarification and/or amendment is suggested.

The reference to "substantially all" creates some uncertainty since it is a relative term which does not clearly specify a particular limitation, since the term is not defined by the claims and since

there is no clear standard associated with the term to allow one to determine the requisite degree. Clarification and/or amendment is suggested.

The reference to a "mid block B having two ends" in the claims (e.g. claims 60, 66, 70 and 74) creates some uncertainty since it is unknown what "having two ends" means in the context of the claimed A-B-A block copolymer. Does applicant intend that such "two ends" are to be linked to the A blocks or that some other "two ends" may be present? If applicant intends by "having two ends" that these "two ends" are linked to the A blocks it is suggested that the claims be amended to indicate this feature.

Claims 40 and 126 (and possibly others) refer to the mid block "B is a hydrogenated polymer including a plurality of ethylene/propylene and a plurality of ethylene/butylene monomers". Since "ethylene/butylene" and "ethylene/propylene" are not monomers in the sense that ethylene, butylene and propylene are used to form the copolymer, but instead the polymer, when hydrogenated, resembles one having units derived from ethylene and butylene or ethylene and propylene, it is incorrect to state that the polymer is includes a plurality of such "monomers". As such, it is therefore unclear what polymer-forming species applicant intends to claim for the midblock B. Clarification and amendment is suggested.

The reference to a "three dimensional web" (e.g. claims 66, 70 and 74) creates some uncertainty since it is not clear what is meant by this phrase or how it is limiting or descriptive of the claimed elastomeric material. Clarification is suggested.

These claims further recite that the plasticizing polymer molecules are "trapped" within the "three dimensional web" such that it is unclear what is meant by "trapped". Clarification is suggested.

Claim 70 further recites that the plasticizing polymer molecules are "trapped" within the "three dimensional web" such that it is unclear what is meant by "trapped". Clarification is suggested.

**D. Rejections Under 35 U.S.C. § 102 and/or § 103**

**(i) Basis of Rejection**

The following is a quotation of the appropriate paragraphs of 35 U.S.C. § 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless —
>
> (b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

**(ii) Claims 10, 11, 23-27, 66-74 and 111-135 are rejected under 35 U.S.C. § 102(b) as being anticipated by Chen (US 5,334,646) and Chen (US 5,153,254).**

The Chen patents (US 5,334,646 and 5,153,254) disclose thermoplastic elastomer gelatinous compositions and articles comprising a blend of a styrene-ethylene/butylene-styrene (SEBS) A-B-A triblock copolymer and high levels of plasticizing oil which are useful to produce articles such as shock absorbers and cushions. Soft, highly flexible and deformable elastomer articles possessing

elastic memory may be made from the disclosed compositions (e.g. US '646 col. 2, lines 1-6). Other copolymers including block copolymers such as SBS, SIS, SEBS, SEP, (SB)n, (SEB)n, (SEBS)n, (SEP)n and (SI)n may also be added (US '646 col. 4, line 63 to col. 5, line 6). Among the plasticizers intended to be used are "resins" according to the claims (e.g. US '646, col. 3, line 55 to col. 4, line 12; US '254 col. 3, line 54 to col. 4, line 25). The amount of the plasticizer may be from about 300 to about 1600 pbw per 100 pbw of the triblock copolymer (US '646, col. 2, lines 21-29; US '254, col. 2, lines 40-50) which appears to overlap the claimed amounts. Additional components according to the claims may also be present in the composition, including glass microspheres (US '646, col. 5, line 19; US '254, col. 4, line 53), colorants, pigments, flame retardants and antiblocking (i.e. detackifying) agents (US '646, col. 4, lines 42-45; col. 5, lines 15-18; US '254, col. 4, lines 26-29, 45-52).

The term "resin" is considered to be so broad as to be almost meaningless since a "resin" may be solid, semi-solid or liquid and may also be synthetic, natural or a modified natural resin. As such, the term "resin" is not considered to exclude any of the plasticizers disclosed by the Chen patents.

**(iii) Claims 10, 11, 23-27, 66-74 and 111-135 are rejected under 35 U.S.C. § 102(b) as being anticipated by Sieverding (US 4,833,193).**

Sieverding discloses pressure sensitive adhesive compositions comprising from about 2 to about 40 wt.% of a triblock copolymer, at least 20 wt.% of a low molecular weight resin and up to about 80 wt.% of a mineral oil. Among the triblock copolymers disclosed are the Kraton G-1600 series thermoplastic elastomers, including, for example Kraton G-1651, G-1652 and G-4609 which are triblock SEBS copolymers within the scope of the claims. Plasticizers such as Regalrex series resins having properties within the scope of the claims are also disclosed as being desirable

plasticizers (col. 3-4; e.g. Regalrez 1018 is disclosed as preferred, col. 13, lines 34-35). Sieverding also discloses that Regalrez 1018 is a useful plasticizer for Kraton block copolymers and that it has properties within the scope of the dependent claims (e.g. claim 40).

Sieverding further teaches that diblock SEP copolymers such as Kraton G-1701 which are within the scope of the claims may be added (col. 2, line 6 to col. 3, line 8).

Although Sieverding discloses that the composition is useful in pressure sensitive adhesive applications, it is further taught that thick materials may be prepared which function to absorb shock (col. 11) and are visco-elastic. As such, Sieverding's composition and suggested applications are within the scope of the claims. The composition is also disclosed to be usefully applied to fabrics and textiles (col. 7, lines 35-40).

**(iv) Claims 10-86 and 99-135 are rejected under 35 U.S.C. § 103(a) as being unpatentable over the combination of Chen (US 5,334,646), Chen (US 5,153,254) and Sieverding (US 4,833,193), the combination in view of Pearce (US 5,549,743) and Moser et al. (US 5,731,359).**

The above references to the Chen patents and Sieverding set forth in sections D(ii) and (iii) are incorporated herein.

In view of the Chen patents and Sieverding, it would have been obvious to one of ordinary skill in the art to utilize a composition comprising a block copolymer such as an SEBS triblock copolymer, or a blend of block copolymers comprising an SEBS triblock copolymer and a plasticizer component comprising at least one plasticizer to form a visco-elastic composition useful in applications such as shock absorbers since each of the Chen patents and Sieverding disclose such compositions and suggest the same useful application.

In view of the Chen patents, it would have been obvious to one of ordinary skill in the art to combine other block copolymers such as SBS, SIS, SEBS, SEP, (SB)n, (SEB)n, (SEBS)n, (SEP)n and (SI)n block copolymers with an SEBS block copolymer in an adhesive or shock-absorbing composition since the Chen patents teaches that such additional block copolymers may be usefully combined with an SEBS block copolymer in such adhesive or shock-absorbing compositions.

In view of Sieverding, it would have been obvious to one of ordinary skill in the art to combine an SEP block copolymer with other block copolymers such as an SEBS block copolymer in an adhesive or shock-absorbing composition since Sieverding teaches that

Pearce discloses composite microsphere and lubricant mixtures which are suitable for forming cushions and padding such as in seats, chairs, grips and shoes (col. 1; col. 18, line 58 et seq.). The disclosed microspheres are "spherical objects" and include plastic microspheres made of acrylic or other plastic which may be hollow and have an interior vacuum or gaseous interior with particle diameters typically less than 2000 microns (col. 10, line 42 to col. 11, line 30). Pearce's composition includes a visco-elastic fluid which may be a polymer capable of being crosslinked (col. 12, lines 58-67). The microspheres are further taught to function to reduce the specific gravity of the composition resulting in a lightweight composite material which is suitable as a cushion (e.g. col. 7, line 59 to col. 8, line 4) and which possesses insulative properties due to the presence of the hollow spheres (col. 8, lines 5-16). Pearce further teaches that fabric layers, such as a stretchable fabric, may be used on the exterior surface of the composition (col. 15, lines 17-42).

In view of Pearce, essentially disclosing the use of hollow spheres such as acrylic microspheres in a composite material suitable for cushions, it would have been obvious to one of ordinary skill in the art to incorporate such hollow sphere components in the cushioning or shock-absorbing materials of the Chen patents and Sieverding since Pearce teaches that the incorporation

of hollow spheres provides a reduced specific gravity and/or improved insulating properties. One of ordinary skill in the art would therefore expect to obtain a cushioning or shock-absorbing material, based on the combination of Chen and Sieverding in view of Pearce, which is of reduced specific gravity and/or improved insulating properties. In addition, in view of Pearce, it would have been prima facie obvious to one of ordinary skill in the art to provide a fabric material layer on an article comprised of the Chen or Sieverding compositions since such a combination would be consistent with the intended use of each invention as a cushioning and/or shock-absorbing article and since Pearce suggests that the use of a fabric layer is a useful part of such cushioning or shock-absorbing articles.

Moser discloses vibration-absorbing elements comprised of a foamed thermoplastic polymer such as an SEBS polymer and teaches that the foamed structure provides excellent vibration absorption characteristics (col. 1, lines 43 to col. 2, line 5).

In view of Moser, essentially disclosing vibration-absorbing elements comprised of a foamed thermoplastic polymer such as an SEBS polymer, it would have been prima facie obvious to one of ordinary skill in the art to prepare a vibration-absorbing element having a foamed structure since Moser teaches that such a foamed structure provides an excellent vibration -absorbing characteristic.

## E. Double Patenting Rejections

The nonstatutory double patenting rejection is based on a judicially created doctrine grounded in public policy (a policy reflected in the statute) so as to prevent the unjustified or improper timewise extension of the "right to exclude" granted by a patent and to prevent possible harassment by multiple assignees. See *In re Goodman*, 11 F.3d 1046, 29 USPQ2d 2010 (Fed. Cir. 1993); *In re Longi*, 759 F.2d 887, 225 USPQ 645 (Fed. Cir. 1985); *In re Van Ornum*, 686 F.2d 937, 214

USPQ 761 (CCPA 1982); *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970);and, *In re Thorington*, 418 F.2d 528, 163 USPQ 644 (CCPA 1969).

A timely filed terminal disclaimer in compliance with 37 CFR 1.321(c) may be used to overcome an actual or provisional rejection based on a nonstatutory double patenting ground provided the conflicting application or patent is shown to be commonly owned with this application. See 37 CFR 1.130(b).

Effective January 1, 1994, a registered attorney or agent of record may sign a terminal disclaimer. A terminal disclaimer signed by the assignee must fully comply with 37 CFR 3.73(b).

**Claims 10-86 and 99-135 are provisionally rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over the claims of copending Application No. 08/780,838.**

Although the conflicting claims are not identical, they are not patentably distinct from each other because the copending application claims an elastomeric material formed from a block copolymer, or mixture of block copolymers, a plasticizer and other components within the scope of the claims.

This is a provisional obviousness-type double patenting rejection because the conflicting claims have not in fact been patented.

## F. Objections to the Claims, Specification and/or Application

The specification is objected to for the following reasons:

The attempt to incorporate subject matter into this application by reference to prior U.S. applications (now abandoned) is improper because the prior applications are not commonly owned.

The specification improperly incorporates by reference the disclosure of abandoned applications Serial Nos. 778,343, 815,315 and 916,731 (pages 9-11 of the specification). Note that incorporation of U.S. patents and applications by reference is proper only for issued U.S. patents, allowed applications where the issue fee has been paid or prior filed commonly owned U.S. applications. Applicant is required to amend the specification to delete the incorporation by reference to these applications or to amend the specification to include the essential material which is intended to be incorporated.

The specification improperly incorporates by reference the "prosecution history" of U.S. 5,475,890. Note that incorporation by reference is proper only for issued U.S. patents not the "prosecution history" of such patents since it is the patent which is published not the prosecution history. Applicant is required to delete the incorporation by reference to the "prosecution history" of the U.S. '890.

The extended discussion of prosecution history of U.S. patent applications Serial Nos. 778,343, 815,315, 916,731 (all abandoned) and 134,977 and U.S. 5,475,890 at pages 9-16 of the specification is improper in a U.S. patent application. The discussion of the background of the related prior art is intended to be limited to a description of the related prior art, including problems involved in the prior art as well as any solutions which may be provided by applicant's invention. See MPEP 608.01(c). While such references to the prosecution history including a summary of the positions taken by Examiner Lilling and the inventor of these applications and patent may be proper is a legal discussion of litigation issues, such a discussion is not properly within the bounds of a disclosure of a U.S. patent application. Applicant should therefore delete such unnecessary references to the prosecution history of these abandoned applications and the issued '890 patent. In order to facilitate such an amendment, it is suggested that the text beginning

at page under section 2 through page 16 be deleted and re-submitted as an amendment which does not include a discussion of the prosecution history noted. It is further suggested that applicant's representative contact the examiner to determine an appropriate amendment to the specification in order to resolve this issue.

The Celsius temperature values claimed, i.e. "°C." should be corrected in the claims by deleting the period (e.g. see claims 14, 15, 21, 22, 28, 40, 64 and 65).

The spelling of "microsphers" (claim 60) and "ccopolymers" (claim 109) should be corrected.

**G. Future Correspondence**

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Mark Warzel whose telephone number is (703) 308-2394. The examiner can normally be reached on Mondays to Fridays from 10am to 5 pm.

If attempts to reach the examiner by telephone are unsuccessful, Supervisory Patent Examiner Vasu Jagannathan may be contacted at (703) 306-2777. The fax phone numbers for this Group are (703) 305-5433 and (703) 305-5408.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the Group receptionist whose telephone number is (703) 308-0661

mlw
8/17/98

MARK WARZEL
PRIMARY EXAMINER
ART UNIT 1714